

In the Claims:

Please amend claim 39. The claims are as follows.

1. (Previously presented) An encapsulant composition comprising:
a resin material selected from the group consisting of epoxy and cyanate ester resins;
a flexibilizing agent comprising 2 percent to about 5 percent by weight of said composition; and
a filler material comprising substantially spherical or spheroidal particles, each particle having a diameter of less than about 41 microns.
- 2-4. (Canceled)
5. (Previously presented) The composition of claim 1 wherein said resin material is an epoxy resin and comprises glycidyl ethers.
6. (Previously presented) The composition of claim 1 wherein said resin material is a cyanate ester resin and comprises at least a di-cyanate ester resin.
7. (Canceled)
8. (Original) The composition of claim 1 wherein said flexibilizing agent is selected from the

group consisting of polysulfones, polyetherimide, polyamideimides, polyarylene ethers, polyesters, polyarylates, polycarbonates, polyurethanes, hydroxy-terminated polysulfone oligomers, 1,4-butane-diol diglycidyl ethers, neopentylglycol diglycidyl ether, cyclohexane dimethanol diglycidyl ether, trimethylol ethane triglycidyl ethers, dibromoneopentylglycol glycidyl ethers, propoxylated glycerol polyglycidyl ether, polypropylene glycol glycidyl ether, polyglycidyl ether of castor oil, dimer acid diglycidyl esters, resorcinol diglycidyl ether, epoxidized propylene glycol diolates, epoxy esters, 1,2-tetradecane oxides, internally epoxidized 1,3-butadiene homopolymers, diglycidyl ether, glycidyl glycidate, bis(2,3-epoxy-2-methylpropyl)ether, polyglycoldiepoxides, E-caprolactone triol, copolymers of butadiene and styrene, butyl rubber, neoprene, polysiloxanes, carboxyl terminated poly n-butylacrylates, maleic anhydride terminated rubbers, epoxy functionalized rubbers, fluoridized rubbers, and hydroxylated or carboxylated EPDM rubbers.

9-13. (Canceled)

14. (Previously presented) The composition of claim 1 wherein a portion of each of said spherical or spheroidal particles includes a layer of coupling agent positioned thereon.

15-17. (Canceled)

18. (Previously presented) An electronic package comprising:
a substrate having an upper surface;

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a semiconductor chip mounted on a portion of said upper surface of said substrate and electrically coupled to said substrate, said semiconductor chip having a bottom surface and at least one edge surface being substantially perpendicular to said bottom surface; and

a material positioned on at least said portion of said upper surface of said substrate and against at least a portion of said at least one edge surface of said semiconductor chip, said material being an encapsulant composition which includes a resin material, a flexibilizing agent comprising 2 percent to about 5 percent by weight of said composition, and a filler material comprising substantially spherical or spheroidal particles, each particle having a diameter of less than about 41 microns.

19. (Original) The electronic package of claim 18 wherein said substrate comprises an organic material.

20. (Original) The electronic package of claim 19 wherein said organic material includes a resin selected from the group consisting of epoxies, polyimides, cyanates, fluoropolymers, benzocyclobutenes, polyphenylenesulfides, polysulfones, polyetherimides, polyetherketones, polyphenylquinoxalines, polybenzoxalines, polybenzoxazoles, polyphenylbenzobisthiazoles, dicyclopentadienes, and halide free resins .

21. (Original) The electronic package of claim 19 wherein said substrate further includes a reinforcing material.

22. (Original) The electronic package of claim 21 wherein said reinforcing material is selected from the group consisting of organic woven fibers, organic non-woven fibers, inorganic woven fibers, and inorganic non-woven fibers.

23. (Original) The electronic package of claim 18 wherein said substrate comprises a ceramic material.

24. (Original) The electronic package of claim 23 wherein said substrate further includes a layer of glass material therein.

25. (Original) The electronic package of claim 18 wherein said resin material is selected from the group consisting of epoxy and cyanate ester resins.

26. (Original) The electronic package of claim 25 wherein said resin material is an epoxy resin and comprises cycloaliphatic epoxides.

27. (Original) The electronic package of claim 26 wherein said cycloaliphatic epoxides are derived from unsaturated aromatic hydrocarbon compounds.

28. (Original) The electronic package of claim 25 wherein said resin material is an epoxy resin and comprises glycidyl ethers.

29. (Original) The electronic package of claim 25 wherein said resin material is a cyanate ester resin and comprises at least a di-cyanate ester resin.

30. (Canceled)

31. (Previously presented) The electronic package of claim 18 wherein said flexibilizing agent is selected from the group consisting of polysulfones, polyetherimide, polyamideimides, polyarylene ethers, polyesters, polyarylates, polycarbonates, polyurethanes, hydroxy-terminated polysulfone oligomers, 1,4-butane-diol diglycidyl ethers, neopentylglycol diglycidyl ether, cyclohexane dimethanol diglycidyl ether, trimethylol ethane triglycidyl ethers, dibromoneopentylglycol glycidyl ethers, propoxylated glycerol polyglycidyl ether, polypropylene glycol glycidyl ether, polyglycidyl ether of castor oil, dimer acid diglycidyl esters, resorcinol diglycidyl ether, epoxidized propylene glycol dioleates, epoxy esters, 1,2-tetradecane oxides, internally epoxidized 1,3-butadiene homopolymers, diglycidyl ether, glycidyl glycidate, bis(2,3-epoxy-2-methylpropyl)ether, polyglycoldiepoxides, E-caprolactone triol, copolymers of styrene, butyl rubber, neoprene, polysiloxanes, carboxyl terminated poly n-butylacrylates, maleic anhydride terminated rubbers, epoxy functionalized rubbers, fluoridized rubbers, and hydroxylated or carboxylated EPDM rubbers.

32-36. (Canceled)

37. (Previously presented) The electronic package of claim 18 wherein a portion of each of said

spherical or spheroidal particles includes a layer of coupling agent positioned thereon.

38. (Canceled)

39. (Currently amended) The electronic package of claim 18 wherein said wherein said composition further includes a catalyst material selected from the group consisting of imidazoles, tertiary amines, benzyldimethylamine, 1,3-tetramethyl butane diamine, tris (dimethylaminomethyl) phenol, pyridine, triethylendiamine, aluminum chloride, boron trifluoride, ferric chloride, titanium chloride, zinc chloride, sodium acetate, disodium cyanide, sodium cyanate, potassium thiocyanate, sodium bicarbonate, sodium boronate, and cobalt, manganese, iron, zinc, or copper acetylacetonate, octoate, or naphthenates.

40. (Canceled)

41. (Previously presented) A method of making an encapsulant composition, the method comprising the steps of:

providing a first quantity of resin material;

adding to said first quantity of resin material a second quantity of flexibilizing agent by homogenizing said flexibilizing agent in said first quantity of resin material by reacting said resin material and said flexibilizing agent together at a temperature of greater than about 100 degrees Celsius;

adding to said first quantity of resin material a third quantity of filler material comprising

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substantially spherical or spheroidal particles, each particle having a diameter of less than about 41 microns; and

blending said resin material, wherein after said blending said flexibilizing agent comprises 2 percent to about 5 percent by weight of said composition.

42. (Canceled)

43. (Original) The method of making the composition of claim 41 wherein said step of blending is performed under vacuum.

44. (Previously presented) The composition of claim 1, wherein said flexibilizer comprises a thermoplastic material containing a thermoplastic oligomer backbone.

45. (Canceled)

46. (Previously presented) The electronic package of claim 18 wherein said flexibilizer comprises a thermoplastic material containing a thermoplastic oligomer backbone.

47. (Previously presented) The method of claim 41 wherein said flexibilizer comprises a thermoplastic material containing a thermoplastic oligomer backbone.

48. (Previously presented) The composition of claim 1 wherein each particle has a diameter

exceeding 31 microns.

49. (Previously presented) The electronic package of claim 18 wherein each particle has a diameter exceeding 31 microns.

50. (Previously presented) The method of claim 41 wherein each particle has a diameter exceeding 31 microns.